

Amendments to the Claims

1. (Currently Amended) A method for mapping a gene network comprising the steps of:
preparing a plurality of biological samples;
detecting expression of at least five genes in said biological samples;
comparing expression of the at least five genes in a first of said biological samples
to expression of the at least five genes in a second of said biological samples;
generating a cluster map for said genes, wherein the cluster map categorizes genes
according to ~~similarity in~~ unchanged, increased, or decreased expression levels in the first
relative to the second of said biological samples; and
analyzing said cluster map to generate gene network causal models defining
regulatory relationships among said genes.
2. (Previously Presented) The method of claim 1, wherein absolute amount of transcripts
of said genes in each of the biological samples is determined and compared.
3. (Original) The method of claim 2, wherein said amount of transcripts is detected with a
high density nucleic acid array.
4. (Original) The method of claim 1, wherein said biological samples are prepared by a
homozygous knockout strategy.
5. (Previously Presented) The method of claim 1, wherein each of said biological samples
is derived from one clone of cells.

6. (Original) The method of claim 1, wherein said biological samples are prepared using cells representing different developmental, physiological or pathological status.

7. (Original) The method of claim 1, wherein said biological samples are prepared by stimulating cells with a combination of a plurality of hormones.

8. (Original) The method of claim 1, wherein said biological samples are prepared by transfecting cells with a combination of a plurality of vectors, said vectors being used by said cells as templates to transcribe a plurality of RNAs, each of said RNAs having a sequence complementary to one of said genes.

9. (Original) The method of claim 1, wherein said gene network causal models are generated and tested using the Linear Structure Relations (LISREL) process performed in a digital computer.

10-105. (Canceled)

106. (Currently Amended) The method of claim ~~7~~ 1 wherein said biological samples are prepared using random chemical mutagenesis.

107. (Currently Amended) The method of claim ~~7~~ 1 wherein said biological samples are prepared using microinjection of antisense RNA or protein into cells.